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ABSTRACTACRYLIC ACID RECOVERY UTILIZING
ETHYL ACRYLATE AND SELECTED CO-SOLVENTS

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A method of recovering acrylic acid from a mixture comprising acrylic acid, water and acetic acid is disclosed, which includes: (a) extracting acrylic acid from the mixture with a solvent mixture comprising ethyl acrylate as the preponderant component thereof and an organic co-solvent selected from the group consisting of toluene, heptane, 1-heptene, methylcyclohexane, cycloheptane, cycloheptadiene, cycloheptatriene, 2,4-dimethyl-1,3 pentadiene, methylcyclohexene and methylenecyclohexene to form an extracted composition; and (b) azeotropically distilling the extracted composition to recover acrylic acid.

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Also disclosed is an alternate method of recovering acrylic acid which includes:

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(a) providing a feed stream containing acrylic acid, water, acetic acid, ethyl acrylate and an organic co-solvent selected from the group consisting of toluene, heptane, 1-heptene, methylcyclohexane, cycloheptane, cycloheptadiene, cycloheptatriene, 2,4-dimethyl-1,3 pentadiene, methylcyclohexene and methylenecyclohexene to a distillation column, wherein the weight ratio of ethyl acrylate to the organic co-solvent is from about 80:20 to about 95:5; and (b) azeotropically distilling said feed stream to provide an acrylic acid residue stream.

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